



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Water Branch Office
830 S Street
Sacramento, CA 95811
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



March 30, 2016

Trevor Joseph
Supervising Engineering Geologist
California Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236

Dear Mr. Joseph:

Subject: Comments on Draft Emergency Regulations for Groundwater Sustainability Plans and Alternatives

As trustee for the State's fish and wildlife resources, the California Department of Fish and Wildlife (Department) has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of such species. As a key component to sustainably managing our groundwater resources, the Sustainable Groundwater Management Act recognizes that chronic lowering of groundwater levels may lead to depletions of interconnected surface water, and as a result, have significant and unreasonable adverse impacts on the beneficial uses of the surface water. Water Code Section 1243 institutes the preservation and enhancement of fish and wildlife resources as a beneficial use of water, and the Department views the identification, monitoring, and assessment of ecosystems that rely on interconnected surface water essential to the avoidance of adverse impacts to this beneficial use of our water resources. The Department has reviewed the Draft Emergency Regulations for Groundwater Sustainability Plans (hereafter, Plan or Plans) and Alternatives and provides the following comments.

1. The regulations do not define groundwater-dependent ecosystems (GDEs). Providing a definition of GDEs is essential to ensuring a common understanding of these systems in order to identify them, monitor their changes, and assess any potential undesirable results from depletion of interconnected surface waters or shallow groundwater. We suggest including the following definition as developed by The Nature Conservancy: "groundwater-dependent ecosystems" refer to ecological communities and species that require direct or indirect access to groundwater, or rely on the interconnection between groundwater and surface water, for some or all of their water requirements.
2. In Section 351(m) (Definitions) the definition of "interconnected surface water" does not consider that there can be temporal variability where a stream may not have a continuously saturated zone connected to the underlying aquifer or interconnection via the capillary zone above the water table.

We suggest the following definition: "interconnected surface water" refers to conditions where any surface water and the underlying groundwater system are hydraulically connected during any time of the year such that changes in the conditions in one affect the other.

3. In Section 352 (Introduction to Technical and Reporting Standards) we suggest adding language to make clear that the data described in this section is not exhaustive of what will be required to assess the sustainability of a basin and additional data, like data to assess impacts to GDEs, will be required.
4. Section 352.6 (Data and Reporting Standards) should include standards for surface water data. Surface water flow measurements should be reported in cubic feet per second. Additionally, standards for surface water hydrographs should be included.
5. Section 354.14 (Hydrogeological Conceptual Model) should require maps that include all surface hydrology features and known surface water diversions in the Plan area. We suggest section (c)(4) may be the appropriate section for this requirement.
6. Section 354.16 (Basin Conditions) should require that Plans include a description of surface water hydrographs so that characterization of surface water conditions in response to climate and seasonal changes and groundwater extractions are evaluated.
7. In Section 354.16 (f) the identification of interconnected surface water systems and GDEs in the basin should include mapped locations of ecosystems, such as seeps, springs, riparian zones, wetlands and vegetation alliances that comprise GDEs. In addition, impacts to GDEs, where appropriate, should be described as required in Water Code Section 10727.4 (l).
8. In Sections 354.18 (Water Budget) (a)(2) and 354.18 (b)(3)(B) water demands should include those of non-crop related plants and trees and should estimate water demands for the environment.
9. Regulations (applies to water budget and minimum thresholds) allow for GSAs to acquire data and develop groundwater-surface water models to quantify surface water depletion by the first five-year assessment.

Without this information during the development of the Plans, water budget calculations will not represent the full picture of what is occurring in the basin and potential depletions of interconnected surface waters will not be taken into consideration. As a result, minimum thresholds, measureable objectives and the monitoring network needed to measure the critical parameters required to assess adverse impacts on beneficial uses of the surface water may not be functional and undesirable results may occur within the first five-year period.

The Sustainable Groundwater Management Act specifies that after January 31, 2025, the State Water Resources Control Board (Board) may designate a high- or medium-priority basin as a probationary basin if the Department of Water Resources, in consultation with the Board, determines that a Plan is inadequate or that the Plan is not being implemented in a manner that will likely achieve the sustainability goal, and the Board determines that the basin is in a condition where groundwater extractions result in significant depletions of interconnected surface water (Water Code Section 10735.2(a)(5)(B)). Absent data and models to quantify surface water depletion in GSPs being submitted by January 31, 2020 or January 31, 2022, sufficient data may not be available for the Board to make a determination on whether groundwater extractions are resulting in significant depletions of interconnected surface waters.

Recognizing the paucity of data on interconnected surface waters, Plans should be required to quantify surface water depletion in the initial Plan and address the degree of uncertainty in this data and how this uncertainty is accounted for in the measurable objectives, minimum thresholds, and the monitoring network.

10. Section 354.26 (Undesirable Results) states undesirable results occur when significant and unreasonable effects for any of the critical parameters are caused by groundwater conditions occurring throughout the basin. We are concerned that "throughout" could be interpreted as conditions must occur throughout the entire basin in order for undesirable results to occur. We suggest clarifying this definition of undesirable results by including additional language that states local groundwater conditions can cause local undesirable results. We believe it was the intent of the legislation to protect against local undesirable results as is reflected in Water Code Section 10735.2(e), which gives the Board the authority to exclude from probationary status any portion of a basin for which a groundwater sustainability agency demonstrates compliance with the sustainability goal. This suggests that undesirable results could be present in only portions of a basin as those portions would not be sustainable.

11. Guidance is needed on what constitutes a significant and unreasonable effect. Section 354.28(6) states the minimum threshold for depletions of interconnected surface water shall be the volume of surface water depletions caused by groundwater use that has significant and unreasonable adverse impacts on beneficial uses of the surface water. A definition of significant effects for biological systems that rely upon surface water is essential to avoid adverse impacts from the depletions of interconnected surface water. We suggest including language from the California Environmental Quality Act (CEQA) to define what a significant effect is. CEQA Guidelines Section 15382 defines a significant effect on the environment to mean a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, mineral, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Furthermore, CEQA Guidelines Section 15065 states a project is considered to have a significant effect on the environment if the project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of fish or wildlife population, cause a fish or wildlife species to drop below self-sustaining levels, threaten to eliminate a plant or animal community, significantly reduce the number or restrict the range of an endangered, rare, or threatened species.
12. In Section 354.28 (6) (Depletions of interconnected surface water) minimum thresholds for interconnected surface waters should include the rate of streamflow depletion. While volume is important, the rate of streamflow depletion is also important for evaluation of impacts to fish and wildlife.
13. Although direct measurements of flow losses in a stream may not be available at the start of the implementation period, there are several analytical stream depletion models that can be used easily to estimate stream depletion, and direct measurements of stream flows can then validate the estimate. GSPs should be required to use the best available science to make an estimate. The USGS has a web site that will calculate the losses using four different models:
<http://mi.water.usgs.gov/software/groundwater/CalculateWell/index.html>
14. Section 354.34 (Monitoring Network) (h)(6)(3) – monitoring to characterize temporal changes in stream discharge requires frequent monitoring of local groundwater levels along with adjacent surface water levels.

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Supervising Engineering Geologist
California Department of Water Resources
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Page 5 of 6

We appreciate the opportunity to comment on these regulations. Should you have further questions regarding our comments and concerns, please contact me at (916) 445 -1272 or at Scott.Cantrell@wildlife.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Scott Cantrell".

Scott Cantrell, Chief
Water Branch
Department of Fish and Wildlife

ec: Sandra Morey, Deputy Director
Ecosystem Conservation Division
Sandra.Morey@Wildlife.ca.gov

Stafford Lehr, Acting Deputy Director
Wildlife and Fisheries Division
Stafford.Lehr@Wildlife.ca.gov

Wendy Bogdan, Assistant Chief Counsel
Office of the General Counsel
Wendy.Bogdan@Wildlife.ca.gov

Eric Loft, Ph.D., Chief
Wildlife Branch
Eric.Loft@Wildlife.ca.gov

Rick Macedo, Chief
Habitat Conservation Planning Branch
Richard.Macedo@Wildlife.ca.gov

William Cox, Acting Chief
Fisheries Branch
William.Cox@Wildlife.ca.gov

Neil Manji, Regional Manager
Northern Region (R-1)
Neil.Manji@Wildlife.ca.gov

Mr. Trevor Joseph
Supervising Engineering Geologist
California Department of Water Resources
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Page 6 of 6

Tina Bartlett, Regional Manager
Northern Central Region, (R-2)
Tina.Bartlett@Wildlife.ca.gov

Scott Wilson, Regional Manager
Bay Delta Region, (R-3)
Scott.Wilson@Wildlife.ca.gov

Julie Vance, Regional Manager
Central Region, (R-4)
Julie.Vance@Wildlife.ca.gov

Edmund Pert, Regional Manager
South Coast Region, (R-5)
Edmund.Pert@Wildlife.ca.gov

Leslie MacNair, Regional Manager
InLand Deserts Region, (R-6)
Leslie.MacNair@Wildlife.ca.gov